

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An isolated barley lipoxygenase-1 mutant gene, wherein the guanine at the splicing donor site (5'-GT-3') of the 5th intron of the barley lipoxygenase-1 gene is mutated is not guanine to a different base.

2. (Currently Amended) [[A]] The isolated barley lipoxygenase-1 mutant gene according to claim 1, wherein the different base at the splicing donor site is adenine.

3. (Currently Amended) A selection method for barley lipoxygenase-1 deficient barley, the method comprising a step of determining the presence or absence of distinguishing the barley lipoxygenase-1 deficient barley by whether or not the a guanine at the splicing donor site of the 5th intron of the barley lipoxygenase-1 gene is mutated to a different base, and selecting the barley having an adenine, thymine or cytosine at the splicing donor site.

4. (Currently Amended) [[A]] The selection method for barley lipoxygenase-1 deficient barley according to claim 3, wherein the different base is comprising selecting the barley having an adenine at the splicing donor site.

5. (Currently Amended) [[A]] The selection method for barley lipoxygenase-1 deficient barley according to claim 3 or 4, wherein the determining comprises comprising extracting [[a]] genomic DNA extraction step wherein genomic DNA is extracted from a barley sample,

amplifying a DNA fragment amplification step wherein a DNA fragment containing at least the splicing donor site of the 5th intron of the barley lipoxygenase-1 gene is amplified from the extracted genomic DNA, and

detecting [[a]] the amplified DNA fragment detection step wherein the DNA fragment containing the splicing donor site of the 5th intron of the barley lipoxygenase-1 gene

~~amplified in the DNA fragment amplification step is cleaved by cleaving with a restriction enzyme to determine the presence or absence of guanine at the splicing donor of the 5<sup>th</sup> intron of the barley lipoxygenase-1 gene, a DNA fragment having the prescribed number of bases is detected, and the barley lipoxygenase-1 deficient barley is distinguished by whether or not the guanine at the splicing donor site is mutated to a different base.~~

6. (Currently Amended) [[A]] The selection method for barley lipoxygenase-1 deficient barley according to claim 5, wherein the restriction enzyme ~~used in the DNA fragment detection step~~ is Afal, ~~and/or RsaI, or both which recognize the nucleotide sequence 5'-GTAC-3'.~~

7. (Currently Amended) A material for malt alcoholic beverages, wherein the material is selected from a group consisting of a seed, a malt, malt extract, barley decomposition product or processed barley derived from barley, comprising having a the barley lipoxygenase-1 mutant gene according to claim 1 or 2.

8. (Currently Amended) A material for malt alcoholic beverages, wherein the material is selected from a group consisting of a seed, a malt, malt extract, barley decomposition product or processed barley derived from barley selected by [[a]] the selection method according to claim 3 any one of claims 3 to 6.

9. (Currently Amended) A method for production of producing malt alcoholic beverages, the method comprising characterized by using fermenting wort obtained from a material for malt alcoholic beverages seed, a malt, malt extract, barley decomposition product or processed barley derived from barley according to claim 7 or 8.

10. (Currently Amended) An isolated nucleic acid comprising the nucleotide sequence from position 1 to 1554 as set forth in SEQ ID NO: 10.

11. (Currently Amended) An isolated nucleic acid comprising the nucleotide sequence as set forth in SEQ ID NO: 11.

12. (Currently Amended) An isolated nucleic acid comprising the nucleotide sequence of 10 to 60 continuous bases including the 3178th base in the nucleotide sequence as set forth in SEQ ID NO: 11.

13. (Currently Amended) A method for detecting the presence of lipoxygenase-1 (LOX-1) activity in barley, the method comprising  
a step of isolating [[a]] genomic DNA from a barley sample, and  
a step of detecting the presence or absence of the 3178th base of the nucleotide sequence as set forth in SEQ ID NO: 11, wherein the presence of the base is an indicator of the presence of LOX-1 activity in the barley.

14. (New) A seed, a malt, malt extract, barley decomposition product or processed barley derived from barley selected by the selection method according to claim 4.

15. (New) A seed, a malt, malt extract, barley decomposition product or processed barley derived from barley selected by the selection method according to claim 5.

16. (New) A seed, a malt, malt extract, barley decomposition product or processed barley derived from barley selected by the selection method according to claim 6.

17. (New) A method for producing malt alcoholic beverages, the method comprising fermenting a seed, a malt, malt extract, barley decomposition product or processed barley derived from barley according to claims 14, 15, or 16.